

Please replace the paragraph beginning at page 24, line 11, to page 25, line 9, with the following rewritten paragraph:

A2
According to Claim 39 of the present invention, there is provided a quantification method for quantifying, by employing the biosensor as defined in any of Claims 1 to 23 and 37, a substrate included in a sample liquid supplied to the biosensor comprising: a first application step of applying a voltage between the detecting electrode and the counter electrode or the working electrode as well as between the working electrode and the counter electrode; a reagent supplying step of supplying the sample liquid to the reagent layer; a first change detecting step of detecting an electrical change occurring between the working electrode and the counter electrode by the supply of the sample liquid to the reagent layer; a second change detecting step of detecting an electrical change occurring between the detecting electrode and the counter electrode or the working electrode by the supply of the sample liquid to the reagent layer; a second application step of applying a voltage between the working electrode and the counter electrode as well as the detecting electrode after the electrical changes are detected in the first change detecting step and the second change detecting step; and a current measuring step of measuring a current generated between the working electrode and the counter electrode as well as the detecting electrode, to which the voltage is applied in the second application step.

Please replace the paragraph beginning at page 25, line 22, to page 26, line 3, with the following rewritten paragraph:

A3
According to Claim 40 of the present invention, in the quantification method as defined in Claim 39, the first change detecting step is followed by a no-change informing step of informing a user that no change occurs when it is detected that no electrical change occurs between the detecting electrode and the counter electrode or the working electrode for a prescribed period of time.

A4
Please replace the paragraph beginning at page 27, line 15, to page 28, line 21, with the following rewritten paragraph:

cont
A4
CROSS-REFERENCED TO THE
REVENUE CODE

According to Claim 42 of the present invention, there is provided a quantification apparatus, to which the biosensor as defined in any of Claims 1 to 23 and 37 is detachably connected and which quantifies a substrate included in a sample liquid supplied to the biosensor comprising: a second current/voltage conversion circuit for converting a current from the working electrode included in the biosensor into a voltage; a first current/voltage conversion circuit for converting a current from the detecting electrode included in the biosensor into a voltage; a first A/D conversion circuit for digitally converting the voltage from the first current/voltage conversion circuit; a second A/D conversion circuit for digitally converting the voltage from the second current/voltage conversion circuit; a first selector switch for switching the connection of the detecting electrode of the biosensor to the first current/voltage conversion circuit or the ground; and a control part for controlling the first A/D conversion circuit, the second A/D conversion circuit, and the first selector switch, and the control part applies a voltage between the detecting electrode and the counter electrode as well as between the working electrode and the counter electrode in a state where the first selector switch is connected to the first current/voltage conversion circuit, detects an electrical change between the detecting electrode and the counter electrode as well as an electrical change between the working electrode and the counter electrode, respectively, occurring by the sample liquid which is supplied to the reagent layer provided on the specimen supply path, thereafter connects the first selector switch to the ground, applies a voltage between the working electrode and the counter electrode as well as the detecting electrode, and measures a response current generated by applying the voltage.

Please replace the paragraph beginning at page 29, line 6, to page 30, line 3, with the following rewritten paragraph:

AS

According to Claim 43 of the present invention, the quantification apparatus as defined in Claim 42 comprises: a second selector switch for switching the connection of the working electrode of the biosensor to the second current/voltage conversion circuit or the ground, and the control part applies a voltage between the detecting electrode and the working electrode as well as between the working electrode and the counter electrode in a state where the first selector

switch is connected to the first current/voltage conversion circuit and the second selector switch is connected to the second current/voltage conversion circuit, respectively, connects the second selector switch to the ground when detecting an electrical change between the working electrode and the counter electrode, occurring by the sample liquid which is supplied to the reagent layer provided on the specimen supply path, and when thereafter detecting an electrical change between the detecting electrode and the working electrode, in a state where the second selector switch is connected to the second current/voltage conversion circuit and the first selector switch is connected to the ground, applies a voltage between the working electrode and the counter electrode as well as the detecting electrode, and measures a response current generated by applying the voltage.

Please replace the paragraph beginning at page 31, line 23, to line 24, with the following rewritten paragraph:

Figures 10 are diagrams exemplifying a formation of fourth slits in the biosensor according to the fourth embodiment.

Please replace the paragraphs beginning at page 65, line 24, to page 66, line 21, with the following rewritten paragraphs:

In any of the above-described biosensors A, B, C, and D according to the first to fourth embodiments, it is more preferable that each slit provided on the electrical conductive layer is processed by the laser, the width of each slit is 0.005 mm - 0.3 mm, and the depth of each slit is equal to or larger than the thickness of the electrical conductive layer, as defined in Claims 17 to 19 of the present invention.

Further, it is preferred that the reagent layer provided in any of the biosensors A, B, C, and D should include enzyme, an electron transfer agent, or a hydrophilic polymer, as defined in Claims 20 to 22 of the present invention.

In addition, it is preferable that the insulating support employed in any of the biosensors A, B, C, and D is made of a resin material, as defined in Claim 23 of the present invention.

(Embodiment 5)

AB

A thin film electrode forming method as defined in Claims 24 to 36 of the present invention will be described as a fifth embodiment with reference to the figures. When the thin film electrode forming method described in the fifth embodiment is applied when the electrode parts of any of the biosensors A, B, C, and D according to the above-described first to fourth embodiments are formed, a biosensor as defined in Claim 37 of the present invention can be obtained.

Please replace the paragraph beginning at page 73, line 14, to page 74, line 1, with the following rewritten paragraph:

Figure 20 is a diagram in which the sensor sensitivities in blood glucose concentrations of 40-600 mg/dl are compared. The blood is drawn into a capillary tube specimen supply path, then a reaction between a reaction reagent and glucose in the blood is promoted for about 25 seconds, and thereafter a prescribed voltage is applied between terminals of working electrode and a counter electrode. The sensor sensitivity here is a current value which is obtained 5 seconds after the application of the prescribed voltage. Since the conventional sensor and the sensor in the embodiment have different electrode materials, an applied voltage is 0.5 V for the conventional carbon paste electrode while it is 0.2 V for the palladium thin film electrode in the embodiment.

Please replace the paragraph beginning at page 75, line 19, to page 76, line 12, with the following rewritten paragraph:

In the quantification apparatus M1, numerals 115a, 115b, and 115c denote connectors connected to a working electrode 5, a detecting electrode 7, a counter electrode 6 of the biosensor A, respectively, numeral 116a denotes a switch provided between the connector 115c and the ground (which means a constant potential electrodeposition and can be not always "0". The same goes for in the present specification.), numeral 118a denotes a current/voltage conversion circuit which is connected to the connector 115a and converts a current flowing between the working electrode 6 and other electrode into a voltage to be output, numeral 119a